ADC BASIC SYSTEM

USER MANUAL

Preface

Working with the ADC Compact user manuals

This ring binder contains all information and procedures necessary for working with the ADC Compact System. The ADC Compact System is a modular system, consisting of hardware components like an Agfa Digitizer and various ADC Compact software packages and tools.

For each section of the ADC Compact System, both hardware and software components, there is a separate user manual.

This ring binder invariably contains the manuals of two of the three standard components of the ADC Compact System:

- The ADC Basic System
- The ADC Compact cassette

For more information on working with the Digitizer integrated in the ADC Compact System, we refer to the manual of this Digitizer.

Two software packages are delivered separately. They have their own separate user manuals which can be added to the ring binder:

- ADC ID Software and ID Tablet
- ADC Autoprocessing Software

All optional software packages or tools that are purchased have their own separate user manuals which can be added to this ring binder:

- ADC Interactive Processing software
- ADC Autorouting software
- ADC DICOM Store Connection
- ADC Black Border software
- ADC Dose Monitoring software
- ADC Auto QC software
- ADC Uro/Tomo software
- ADC Full Leg/Spine software
- ADC Smart Print software
- ADC Annotation Software
- ADC Advanced Annotation Software
- ADC Preview Software
- ADC Pediatric Software
- ADC Dental Software

ADC Compact
System overview

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Introducing the ADC Compact System

The ADC Compact System is a modular system, consisting of hardware components like an Agfa Digitizer and various ADC Compact software packages and tools. The workflow consists of:

- Creating latent images on the image plate of ADC Compact cassettes.
- Adding and editing patient and examination data of images created on ADC Compact cassettes.
- Digitizing the ADC Compact cassettes.
- Processing the digitized images.
- Previewing images after these images have been scanned and processed.
- Storing images.
- Archiving images.
- Printing images.

For a detailed description of the ADC Compact System workflow, refer to *'Working with the ADC Compact System'* on page 7.

The ADC Compact cassette

The ADC Compact cassette differs from the conventional cassette in the following ways:

- Inside the ADC Compact cassette a RF (Radio Frequency)-TAG memory chip is mounted, used for entering patient demographics and examination data.
- Instead of the image intensifying screen and film as in a conventional cassette, you will find an image plate coated with X-ray sensitive storage phosphors inside the ADC Compact cassette.

For a detailed description of the ADC Compact cassette, refer to the ADC Compact cassette chapter of the ADC Compact Basic System user manual.

Hardware components of the ADC Compact System

The ADC Compact System consists of following hardware components:

- The ID Station, including PC, ID tablet (interchangeable configuration only) and console with storage racks

  This ID Station is invariably equipped with the ADC ID Software and the ADC Autoprocessing Software.

  For more information on the configurations (dedicated and interchangeable) of the ID Station and Digitizer in the ADC Compact System, refer to the ADC ID Station user manual.

- An Agfa Digitizer (the ADC Compact Digitizer, ADC Compact Plus Digitizer or ADC Solo Digitizer)
- The ADC Compact Processing Station
- A hardcopy device
- A review station

Features of the ADC Compact System

- The ADC Compact cassette is compatible with existing X-ray equipment. You do not have to modify your current exposure routine and can protect your current investment in X-ray equipment.
- The storage phosphors of the ADC Compact cassette have a much larger dynamic range than conventional film and provide greater tolerance for over- and underexposure and more consistent image quality.
- The memory chip in the ADC Compact links the identification data automatically to the image. These data remain linked to the image during any further processing. Image and patient data can thus not be separated by error.
- In a configuration of cableless and multiple ID Stations and/or Review stations you have a great flexibility in physical location and the possibility to serve several X-ray rooms with one ADC Compact System.
- The ID Station offers you the possibility to enter patient demographics and examination data into the memory chip using a user-friendly menu system. In addition the ID Station allows for viewing ADC Compact cassette data and performing special functions.
- Thanks to the optional image processing functions you can create excellent artifact-free images.
- The ADC Compact System enables you to print on any Laser Imager and Dry Imager in all different sizes and layouts.
- You can print as many hardcopies needed without losing quality.
- Savings on film can be realized by reducing the film size of print-outs, by printing multiple images on one film and by selectively eliminating the film hardcopy.
- Interactive post-processing of images on an individualized system.

Optional features of the ADC Compact System

Beside the ADC ID Software and the ADC Autoprocessing Software, which are invariably installed on the ADC ID Station, you can install a number of optional software packages:

- ADC Interactive Processing software
- ADC Autorouting software
- ADC DICOM Store Connection
- ADC Black Border software
- ADC Dose Monitoring software
- ADC Auto QC software
- ADC Uro/Tomo software
- ADC Full Leg/Spine software
- ADC Smart Print software
- ADC Annotation Software
- ADC Advanced Annotation Software
- ADC Preview Software
- ADC Pediatric Software
- ADC Dental Software

Two optional toolkits make the ADC Compact System open to Radiology Information Systems (RIS) and Hospital information Systems (HIS).

- The ADC Rislink Toolkit enables a customer to develop software to import patient demographics and examination data into the ID Station from a RIS or a HIS. The ADC Rislink Toolkit allows ID Station operators to enter patient demographics and examination data in a faster and even more accurate way.
- The ADC Softcopy Toolkit enables you to develop software for exporting images to remote display devices using NFS (Network File System).

For a detailed description of the additional ADC Compact software modules, refer to the user manuals of these modules.

Applications supported by the ADC Compact System

The ADC Compact System can be used with most general radiology applications:

- All chest examinations: chest images with Bucky, bed-side chest images, low and high kV-technique, pediatric chest
- Abdomen: Overview with Bucky, bed-side abdominal overview images
- Skeleton: Skull, upper extremities, lower extremities, shoulder, spine, pelvis
- Optional application software: tomography, urology, pediatric, dental (panoramic)

The following applications are not yet supported by the ADC Compact System:

- Angiography
- Mammography

Safety precautions

When operating or maintaining the ADC Compact System, always observe the following safety guidelines:

- Make sure that the various components of the ADC Compact System are installed in places where they can be constantly observed.
- Do not bypass or disable any incorporated safety features.
- Always switch off and disconnect the power cord of any component of the ADC Compact System before carrying out any maintenance work.
- Have electrical or mechanical defects repaired by skilled personnel only!
- Make sure the ADC Compact System is not operated in direct sunlight.
- Agfa-Gevaert reserves the right to modify and improve their equipment in order to adapt them to the latest technical standards.

Caution

The service functions for the ADC Compact Processing Station are reserved for trained service personnel. Perform no other operations on the processing server than the ones described in the ADC Compact manuals.

Note

To protect the processing server against blackouts or other potentially damaging events you must use the optionally available battery-backed uninterruptible power supply (UPS). The UPS ensures that the electrical flow to the processing server is not interrupted because of a blackout.

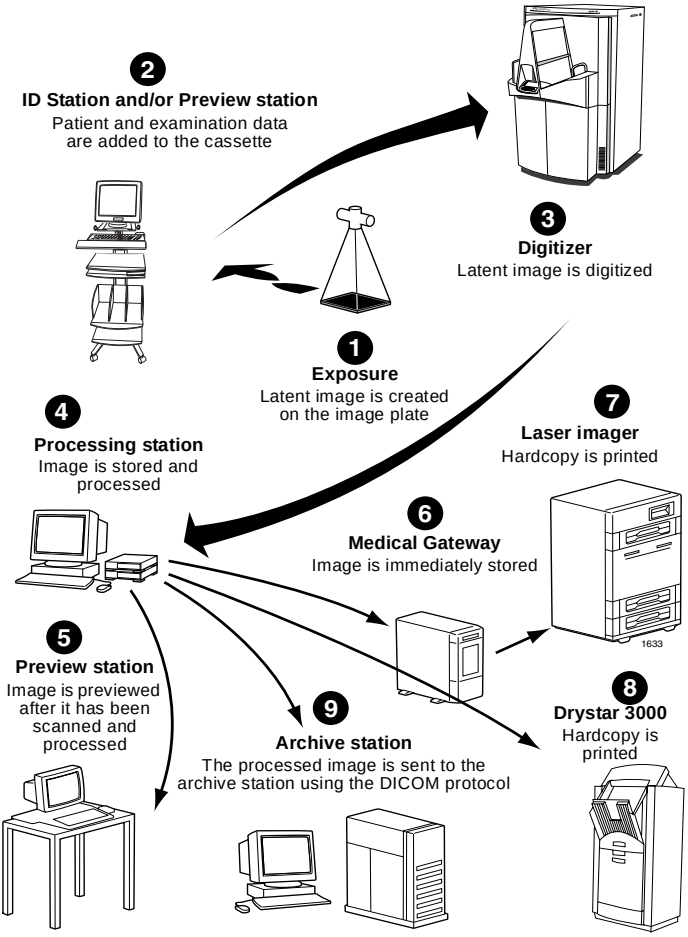
Safety precautions

For software and other technical platforms, and/or in combination with any consumable, which constitute, after installation, a system for the interpretation of medical image data: such system is used by trained and qualified professionals. It is the user's responsibility to ensure that image quality, display quality, environmental lighting and other possible distractions are consistent with the clinical application."

The user must be aware, that automatic collimation could possibly lead to misinterpretation of the image.

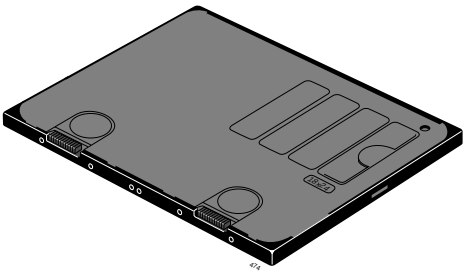
Working with the ADC Compact System

The procedure for working with the ADC Compact System in an interchangeable configuration is depicted in the illustration below and further explained in the following procedure.



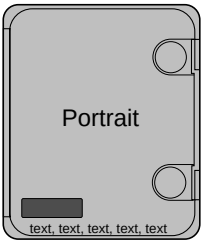
Proceed as follows:

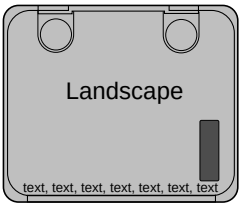
1 Create a latent image on the image plate inside the ADC Compact cassette.



Note

For both landscape and portrait takes, the ADC Compact cassette must be oriented as illustrated, so that the text ends up where the tube-side window is. This applies to both PA and AP X-rays.





For a detailed description of the ADC Compact cassette, refer to the ADC Compact cassette chapter of the ADC Compact Basic System user manual.

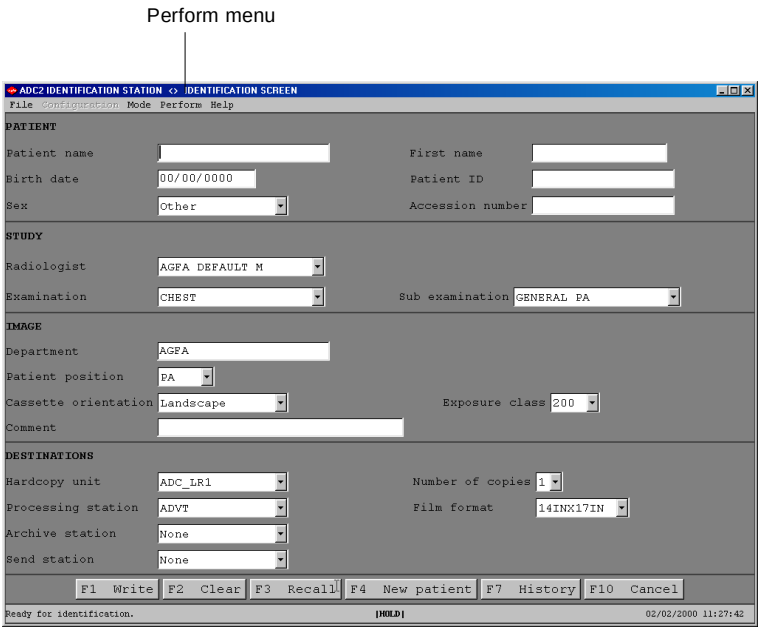
2 Introduce the ADC Compact cassette into the transmission slot of the ID tablet for identification.

Note

In a dedicated configuration, insert the cassette directly into the ADC Solo Digitizer and continue with steps **3** and **5**.

For a detailed description of the different configurations and how to work with the ADC ID Station, refer to the ADC ID Software user manual.

3 Enter patient demographics and examination data into the memory chip using the Identification window of the ADC ID Software. In addition you can consult the cassette data and perform special functions using the Perform menu on the Identification screen:



Note

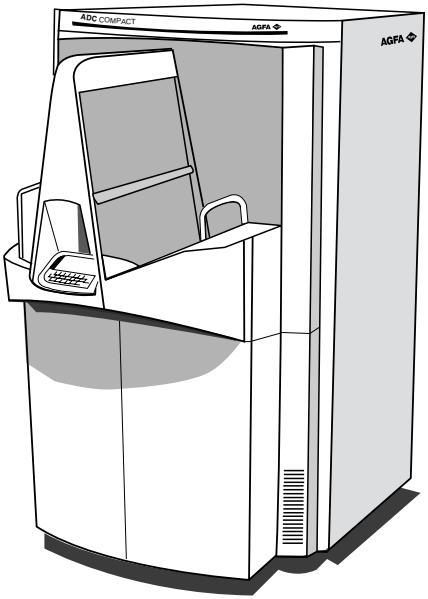
As the memory chip is embedded in the ADC Compact cassette, the identification data are automatically linked to the image and remain linked to the image during any further processing. Image and patient data can thus not be separated by error.

Note

When the ADC Rislink Toolkit is installed, patient data can be downloaded directly from the HIS/RIS network. For more information, refer to the ADC Rislink Toolkit Software user manual.

For a detailed procedure on how to enter patient demographics and examination data, refer to the ADC ID Software user manual.

4 Introduce the ADC Compact cassette into the Digitizer.



From this moment on, the ADC Compact System runs without any user intervention:

- In the Digitizer, a scanning laser beam transforms the latent image stored on the image plate into visible light.
- The visible light is detected and converted into a digital bit stream.
- A 12-bit AD-converter digitizes the image; this means that each picture element or pixel is described in terms of 4096 gray shades.
- The Digitizer then automatically transfers the digitized image to the image processing computer. The ADC Autoprocessing Software processes the incoming raw ADC Compact images fully automatically. From the processing station, the image is sent to the ADC Compact preview station (to enable you to monitor the patient positioning and check the general image quality), an archive station, a medical gateway or a printer.

For a detailed description of the components of your Digitizer and how to work with it, refer to the user and reference manuals of the Digitizer.

5 When the image is being scanned by the Digitizer, you can examine the image using the ADC Preview Software.

■ The **fast preview image** appears while the Digitizer is scanning the image plate. The fast preview image has been processed minimally. It permits you

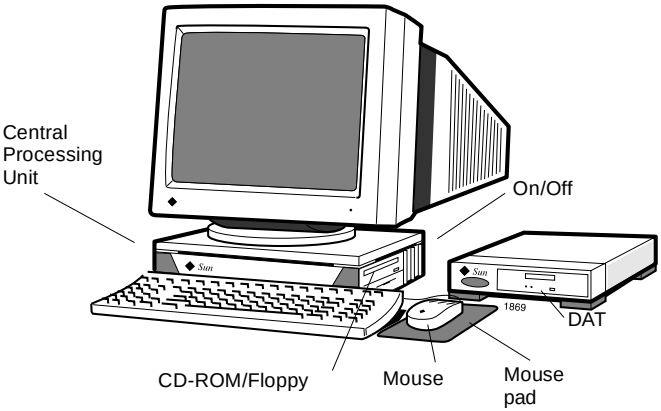
to check patient position and to assess the image quality while the image is still being digitized.

- When the Digitizer has scanned the image plate completely, the fast preview image is replaced by the **preview image**. This is the digitized and processed image at reduced resolution. The preview is an accurate replica of the real image which will eventually be sent to the destinations.

  For more information on working with the ADC Preview Software, refer to the ADC Preview Software user manual.

6 On the ID Station, process the image using the ADC Interactive Processing Software.

Using the Interactive Processing Software you can apply sophisticated image enhancement functions and transmit the modified image to a printer for printing in various layouts on film of various sizes.



Note

The actual Processing Station hardware of your ADC Compact System may differ from the one displayed above.

The Processing Station will save the original image and the processing parameters for short-term archival, thus keeping a stock of the most recent images available for interactive re-processing if desired.

7 On the ID Station, print the image using the ADC Interactive Processing Software.

8 On the ID Station, send the image to the archive station using the ADC Interactive Processing Software.

For more information on working with the ADC Interactive Processing Software, refer to the ADC Interactive Processing Software user manual.

Overview of general ADC Compact functions

A number of features can automatically be applied in the workflow of the ADC Compact System:

- automatic image processing
- automatic image collimation
- automatic image division detection
- automatic exposure control
- Configuration of the standard film division

Note

Usually, these settings are done by your local service organization at installation. When the user can adapt the above settings, we refer to the appropriate paragraph of the user manual.

Automatic image processing functions

The ADC Compact System is equipped with an automatic image processing feature. A number of advanced proprietary image processing algorithms enable optimal rendering of all captured X-ray information on high-quality laser film. This technology is called MUSICA, which stands for MUlti Scale Image Contrast Amplification.

These algorithms are automatically applied in a menu-driven way. This reduces post-processing to an absolute minimum.

The main processing functions are:

Name	This function enables you to
MUSI-contrast	Enhance subtle contrast details on all scales in order to improve their visibility, regardless of the size of the detail.

Name	This function enables you to
Edge contrast	Enhance small scale details, including edges. As noise has a similar appearance, it will be enhanced as well and you might have to look for a balance. ***Caution*** ***The edge contrast function should be applied gently to avoid the risk of artifacts. It is preferable to use MUSI-contrast instead of Edge contrast.***
Latitude reduction	Attenuate the larger scale intensity variations across the image in order to emphasize the medium and small scale details. This way, good visibility of features is obtained in those examinations which typically exhibit an important density shift across the image, without causing saturation into white or black in large portions of the image.
Noise reduction	Attenuate fine grain detail contrast, thus reducing noise impression in those image regions where noise is more prominent, without significantly affecting the contrast of image features like spots, edges and textures.
Extend window right	Extend the Window to the right in order to use more lighter gray levels. Hence, images become lighter and have less contrast by default.
Extend window left	Extend the Window to the left in order to use more darker gray levels. Hence, images become darker by default, but have less contrast.
Window/Level calculation	Calculate the optimal contrast (Window) and intensity (Level) of an image and change these values interactively.
Sensitometry	Simulate an exposure on a given film by selecting a different sensitometric curve.

Note

Usually, these settings are done by your local service organization at installation. These functions are also available using the ADC Compact Interactive Processing software. Refer to the ADC Interactive Processing Software user manual for more information.

Automatic image collimation

The ADC Compact System is equipped with an automatic image collimation feature. This feature searches for diagnostic information. All other information is then no longer taken into account: this results in optimal image quality.

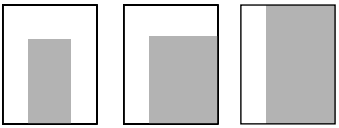
Automatic collimation is possible on each image division part of the ADC Compact cassette.

To maintain a high accuracy of automatic collimation, take the following rules into account:

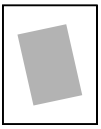
- The edges of the collimated region should form a rectangle. Circular collimation is not possible.

  In the example below automatic collimation is not possible since the collimation region is not a rectangle:

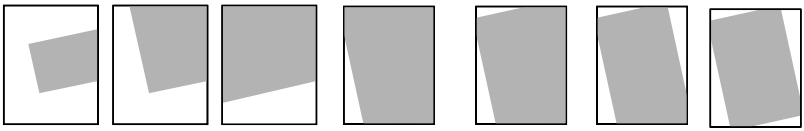
- One or more corners of a rotated rectangle may lie outside the cassette borders.



- The rectangle may be rotated with respect to the cassette borders.

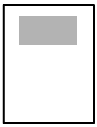


- One or more sides of a rectangle may lie outside the cassette borders.



- The rectangle should include the center of the collimated cassette part.

  In the example below automatic collimation is not possible as the collimation area does not include the centre of the collimated cassette part:



- The size of each side of the rectangle should be at least 30% of the size of the corresponding cassette part.

Note

In addition to the automatic collimation feature, the ADC Compact System offers an optional feature that masks the collimation borders by applying a certain film density, preventing disturbance by ambient light when viewing the film for diagnosis. This feature is standard when performing manual collimation. Refer to the manual of the ADC Interactive Processing Software for more information.

Automatic image division detection

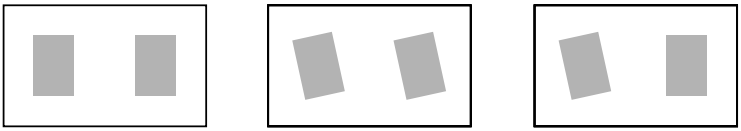
The ADC Compact System is equipped with an automatic image division feature.

With the ADC Compact System, an ADC Compact cassette may subsequently be exposed by parts. While one part of the ADC Compact cassette is exposed, another part is masked with lead plates. This process is known as image division or partitioning.

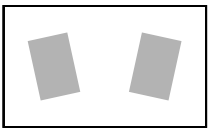
The ADC Compact supports 2-image division and you can permanently set an examination on a certain image division configuration, e.g. 2 division horizontal. Setting a certain image division configuration increases error-free division detection and reduces image processing time.

To maintain a high level of accuracy of the automatic image division detection, take the following rules into account:

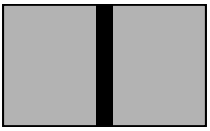
- The partitioning sub-images should approximately be equal in size. This also implies that each image occupies no more than half of the total cassette size.
- The sub-images should be parallel to each other, or one of the images should be parallel to the image border.



In the example below, automatic image detection will not work correctly as the two rectangles are not parallel with each other and with the image borders.



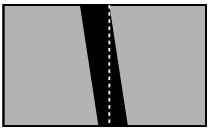
- The subsequently exposed parts may overlap each other or may have no overlap resulting in an overexposed or underexposed strip. So both an overexposed area as an underexposed area are allowed.



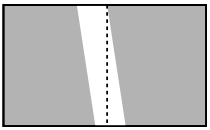
The exposed parts overlap, a strip is overexposed

The exposed parts do not overlap, a strip is underexposed

- The overexposed or underexposed strip may be oblique provided that this strip is wide enough to be split.

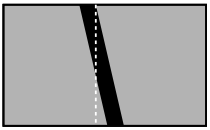


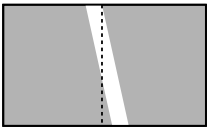
The overexposed strip can be split



The underexposed strip can be split

In the following example, automatic image detection will be impossible, as the overexposed and underexposed strip are not wide enough:





- The overlap strip should have parallel edges. Moreover, the edges should be parallel with the cassette borders.

  In the following example, automatic image detection will be impossible, as there are no parallel borders.

- If you use lead letters, position them within the diagnostic region. This improves collimation.

Note

It is possible to select fixed 3-image and 4-image division in combination with an examination menu or submenu.

Automatic exposure control device response and patient dose

The specific X-ray scattering of the photostimulable phosphors can influence the response of the exposure device, stopping the exposure before the image plate is optimally exposed. Because of this, not only the patient dose, but also the signal-to-noise ratio of the image is unintentionally decreased.

You can compensate for this by providing an additional exposure point or by setting the automatic exposure device less sensitively. Such interventions are not to be interpreted as increasing the patient dose, but as bringing the dose to its normal level.

Note

Usually, these settings are done by your local service organization at installation. These functions are also available using the ADC Dose Monitoring software. Refer to the ADC Dose Monitoring user manual for more information.

Configuration of the standard film division

The standard film division is 1 image printed on a film of 11 x 14 inch. To determine the size of the image, the size of the ADC Compact cassette is taken into account.

Your service organization can reconfigure the preferred film size.

The following tables list all the possibilities of 1 image on 1 film for the most common film sizes:

1/0 Portrait film layouts

Cassette Size	Film Size (8 x 10 inch)	Film Size (11 x 14 inch)	Film Size (14 x 17 inch)
18 x 24 cm	1 < (98%)	1 =	1 =
8 x 10 inch	1 < (92%)	1 =	1 =
15 x 30 cm	1 < (78%)	1 =	1 =
24 x 30 cm	1 < (78%)	1 =	1 =
10 x 12 inch	1 < (77%)	1 =	1 =
21 x 43 cm	1 < (54%)	1 < (78%)	1 < (96%)
35 x 35 cm	1 < (55%)	1 < (77%)	1 < (99%)
35 x 43 cm	1 < (54%)	1 < (77%)	1 < (96%)

= same dimensions as those of the cassette, when printed using the Full size or True size option.
< reduction compared to the dimensions of the cassette, when printed full size. These cassette sizes can be printed true size, i.e. 100% of the image, although this entails proportional clipping of the image at all sides of the image.

Note

The display on the screen is fully WYSIWYG. It shows the image on the screen as it will appear when printed. What you see is what you get.

1/0 Landscape film layouts

Cassette Size	Film Size (8 x 10 inch)	Film Size (11 x 14 inch)	Film Size (14 x 17 inch)
18 x 24 cm	1 =	1 =	1 =
8 x 10 inch	1 < (92%)	1 =	1 =
15 x 30 cm	1 < (82%)	1 =	1 =
24 x 30 cm	1 < (78%)	1 =	1 =
10 x 12 inch	1 < (73%)	1 =	1 =
21 x 43 cm	1 < (57%)	1 < (73%)	1 < (95%)
35 x 35 cm	1 < (52%)	1 < (73%)	1 < (95%)
35 x 43 cm	1 < (52%)	1 < (73%)	1 < (95%)
= same dimensions as those of the cassette, when printed using the Full size or True size option < reduction compared to the dimensions of the cassette, when printed full size. These cassette sizes can be printed true size, i.e. 100% of the image, although this entails proportional clipping of the image at all sides of the image.			

The Image Processing Software offers a feature to print several images on 1 film. The following table lists the additional possibilities.

2/0 film layouts

Cassette Size	Film Size (8 x 10 inch)	Film Size (11 x 14 inch)	Film Size (14 x 17 inch)
18 x 24 cm	1 < (70%)	1 =	1 =
8 x 10 inch	1 < (61%)	1 < (88%)	1 =
15 x 30 cm	1 < (62%)	1 < (87%)	1 =
24 x 30 cm	1 < (52%)	1 < (74%)	1 < (90%)
10 x 12 inch	1 < (49%)	1 < (70%)	1 < (85%)
21 x 43 cm	1 < (43%)	1 < (60%)	1 < (78%)
35 x 35 cm	1 < (34%)	1 < (49%)	1 < (60%)
35 x 43 cm	1 < (34%)	1 < (49%)	1 < (60%)
= 2200G EN 20040224same dimensions as those of the cassette, when printed using the Full size or True size option. < reduction compared to the dimensions of the cassette, when printed full size. These cassette sizes can be printed true size, i.e. 100% of the image, although this entails proportional clipping of the image at all sides of the image.			

Note

Which film sizes are available, depends on the printer you select and how it is configured.

ADC Compact cassette

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Safety precautions

Observe great care whenever removing the image plate from the ADC Compact cassette. Refer to the cleaning procedure described further on in this manual.

Warning

Make sure that the automatic exposure control device is placed above the cassette, to prevent patients from receiving an overdose of X-rays. When it is located underneath the cassette, the backscatter protection (lead) contained in the red side of the cassette, retains a certain amount of X-rays. The dose measured by the cell will then be much lower than the dose actually given to the patient.

Note

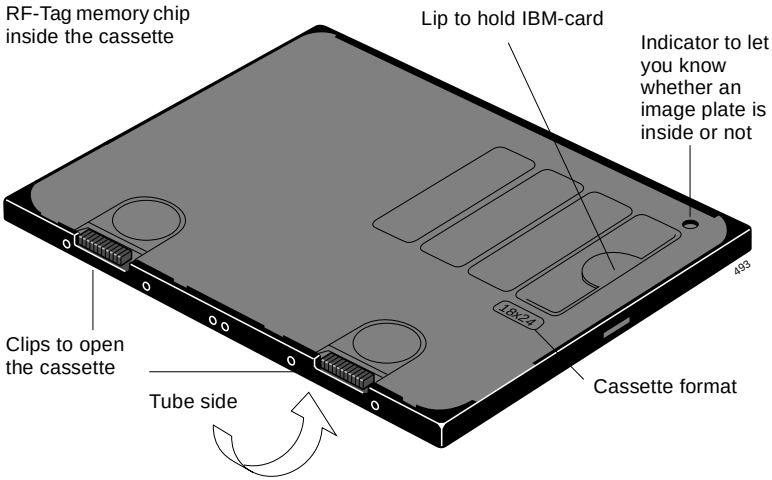
The image plate causes a specific X-ray scattering. This influences the response of the exposure control device. To compensate for this, recalibration of the device for the use with ADC Compact cassettes could be necessary.

Description of the ADC Compact cassette

The ADC Compact cassette and plate are compatible with existing X-ray tables. The exposure equipment and routines do not have to be modified when switching from conventional to digital imaging. Although compatible with existing X-ray equipment, an ADC Compact cassette is quite different from a conventional cassette. The most important difference lies inside, in the image receptor.

Caution

ADC Compact cassettes and ADC 70 cassettes are not interchangeable. But the same image plates can be used for both.


RF-Tag memory chip inside the cassette
Lip to hold IBM-card
Indicator to let you know whether an image plate is inside or not
A93
18x24
Clips to open the cassette
Tube side
Cassette format

Embedded memory

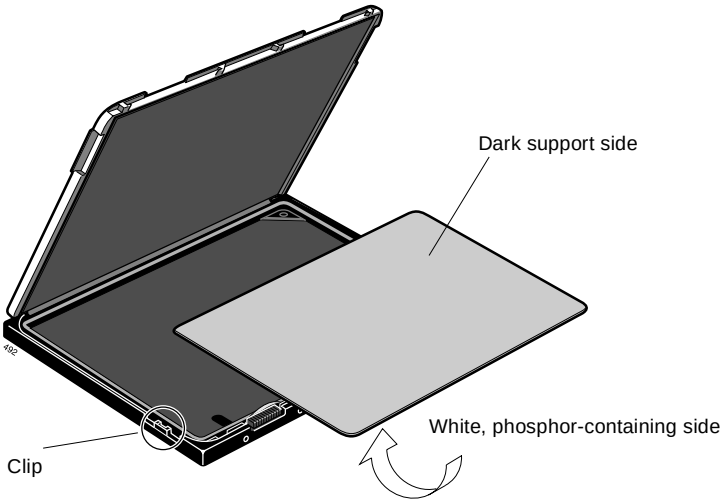
The main difference lies in the RF-tag memory chip that is permanently mounted in the cassette. Using the ADC ID Software you can enter patient demographics and examination data into the memory chip. The identification of this data is performed by no-touch radiofrequency tagging via a built-in antenna card in the ADC Compact cassette.

Image plate

Another difference between an ADC Compact cassette and a conventional cassette is the X-ray sensitive element (image receptor). The latter is no longer a film, but an image plate that can be re-used thousands of times.

The way in which this image plate is placed into the cassette is of great importance. The side containing the white phosphor must be oriented towards the black tube side of the cassette. The dark support side is then oriented towards the red side of the cassette, as shown in the illustration below.

The ‘clips’ mounted on the cassette prevent the cassette from being opened by a conventional daylight system such as the Curix Capacity (Plus), so that even in hybrid conventional/digital departments the occurrence of errors is avoided.



Cleaning the image plate

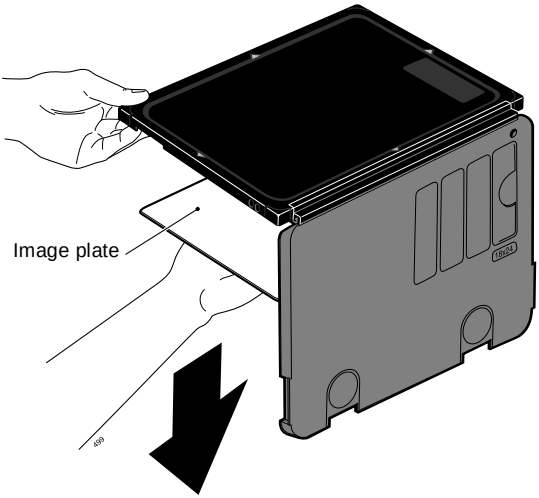
The inner lining of the ADC Compact cassette body is made of Bayer Makrolon polycarbonate. This ensures a high degree of protection against electrostatic charging and dust collection on the ADC image plates. Nonetheless, it is recommended to clean the image plates once a month using the following procedure:

1 Open the cassette with the red side up.

2 Put your hand on the image plate with the cassette in a horizontal position. Make sure that you do not press on the plate.

3 Turn the cassette over, holding the image plate in position with your other hand.

4 Take away the cassette. The image plate remains lying on your hand.



5 When necessary, clean extreme contamination with ADC Digital Screen Cleaner.

6 Moisten a cellulose cloth (non-fluffy) with the cleaning agent.

7 Rub the cleaner softly and evenly over the whole surface of the screen.

8 Leave the cassette with the clean screens open for approximately 10 minutes to enable the solvent to evaporate.

9 Reassemble the cassette.

Make sure that the white side of the image plate, containing the phosphor, is oriented towards the (black) tube side of the cassette.

Caution

Ensure that the image plate is within the flange on the inside of the cassette. If you put the image plate into the cassette differently, e.g. if the image plate lies partly in between the hinge of the cassette, it can be irreparably damaged.

Cleaning the cassettes

When necessary, you can clean the outside of the ADC cassettes with soft water and soap or a detergent solution, with ADC Digital Screen Cleaner or with benzine. The inside should always be cleaned with ADC Digital Screen Cleaner.

Caution

Never clean the cassette with ethyl alcohol, methyl alcohol or diethylic ether.

Technical specifications of the ADC Compact cassette

Sizes

- 35 x 43 cm (14 x 17")
- 35 x 35 cm (14 x 14")
- 24 x 30 cm
- 18 x 24 cm
- 8 x 10"
- 10 x 12"
- 21 x 43 cm (by partial scan of dedicated 35 x 43 cm cassettes)
- 35 x 43 cm HR high resolution cassette
- 35 x 35 cm HR high resolution cassette
- 15 x 30 cm dental cassette

Standards

- DIN 6832 part 1 & 2
- ANSI/NAPM IT 1.49-1995
- IEC 406 (draft 1995)

Weight

- 35 x 43 cm typical 1.6 kg

Material

- Body ABS (Acrylonitryl Butadiene Styrene)
- Corners Polyurethane Rubber (PUR)
- Hinge Polypropylene (PP)
- Inner lining Makrolon

Identification

- Memory chip (RF-tag card) embedded in the cassette

Backscatter protection

- 150 μ lead

Technical specifications of the image plate

Sizes

- 35 x 43 cm (14 x 17")
- 35 x 35 cm (14 x 14")
- 24 x 30 cm
- 18 x 24 cm
- 8 x 10"
- 10 x 12"
- 15 x 30 cm

Plate construction

Protective layer	Electron beam cured polymer
Phosphor	BaSrFBrI:Eu
Base	P.E.T.

Characteristics

Its luminescence spectrum is the typical Eu^{2+} -luminescence, which is at around 390 nm in lattices of the BaFBr-type. The top in the luminescence spectrum is shifted slightly to longer wavelengths due to the incorporation of iodide.

The stimulation spectrum is much broader than that of pure BaFBr and is shifted to longer wavelengths. This shift is caused in the first place by the partial replacement of Ba by Sr, and in the second place by the incorporation of iodide. Thanks to the red-shift of the stimulation spectrum, maximum stimulability is assured at 633 nm, the wavelength of the stimulating laser.

The Agfa phosphor has excellent dark decay characteristics. Two hours after exposure, approximately 80% of the energy stored upon exposure is still available. The image retention is greater than 50% up to 24 hours after irradiation.

CE

Printed in Belgium
Published by Agfa-Gevaert N.V., B-2640 Mortsel-Belgium
2200G EN 20040224

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